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Academic Year	2024/2025		
العام الدراسي			
Term	3		
القصل			
Subject	Physics		
الموضوع	(Bridge)		
Grade	12		
الصف	12		
Stream			
المسار	العام/General		
Number Of MCQ	15		
عدد الأسئلة الموضوعية			
Markes of MCQ	4		
درجة الأسئلة الموضوعية	4		
Number of FRQ	4		
عدد الأسئلة المقالية			
Marks Per FRQ			
الدرجات للأسئلة المقالية	10		
Type of All Questions	الأسئلة /MCQ الموضوعية		
نوع كافة الأسئلة	الأسئلة /FRQ المقالية		
Maximum Overall			
Grade	100		
الدرجة القصوى الممكنة			
Exam Duration	450 :		
مدة الامتحان	150 min		
Mode of	Swift Assess		
Implementation	&		
طريقة التطبيق	Paper-Based.		
Calculator	Allowed		
الآلة الحاسبة	مسموحة		

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الموسال الموس	uestion* Learning Outcome/Performance Criteria**		· · · · · · · · · · · · · · · · · · ·			
المعالمة ال		,	Reference(s) in the Student Book (English Version)			
Segulato how the relative motion between a conductor such as a wire and a magnetic field cases as induced EMF 2 Describe an induced EMF 2 Describe an electric generator, specifying its components. Apply the concept of electromagnetic induction to explain how a generator works. Apply the concept of electromagnetic induction to explain how a generator works. Apply the concept of electromagnetic induction to explain how a generator works. 3 Identify the main energy transformation that occurs in an electric generator. The electromagnetic induction to explain how a generator works. 4 Identify the main energy transformation that occurs in an electric generator. The electromagnetic induction to the loop with respect to the magnetic field when the current in the AC generator is either maximum or minimum. 5 It Testhook 136-13 5 Testhook 14 Centre of the electromagnetic field when the current in the AC generator is either maximum or minimum. 6 The electromagnetic device of the electromagnetic field when the current in the AC generator is either maximum or minimum. 7 The electromagnetic device of the maximum power produced by an AC generator is always positive the generator. Plans of the electromagnetic field when the current in the AC generator is always positive the generator. Plans of the electromagnetic field when the current in the AC generator is always positive the generator. Plans of the electromagnetic field when the current in the AC generator is always positive the generator. 7 Show that the average power of an AC generator is always positive the generator. 8 Apply term's law to describe the direction of the maximum power produced by a AC generator is always positive the generator. 9 Determine the type of pole induced in the current in the power produced by a pole of the maximum power produced by a switch force to generator. 10 Define self-inductance with minimal power force of contraction force to generator. 11 Define self-inductance with electromagnetic feet bringing a total bringing to generato	السوال*			Page		
Describe an electric generator, specifying its components. Apply the concept of electromagnetic induction to explain how a generator works. Apply the concept of electromagnetic induction to explain how a generator works. Apply the concept of electromagnetic induction to explain how a generator works. Apply the concept of electromagnetic induction to explain how a generator works. Its dentify the main energy transformation that occurs in an electric generator. Act (equivalent and the power power of the magnetic field when the current in the Act generator is thinker maximum or minimum. Act generator is thinker maximum or minimum. The power is a special power of the power of the magnetic field when the current in the Act generator is thinker maximum or minimum. The power is a special power of the power o	1	Explain how the relative motion between a conductor such as a wire and a magnetic field causes an induced <i>EMF</i>	Ch. ASS. Q28,63	132-133 150, 152 155		
الطentify the main energy transformation that occurs in an electric generator: A	2	يطبق مُفهوم الْحث الكهرومغناطّيسي لشرح كيفية عمل المولد الكهرباني. Describe an electric generator, specifying its components.	St. Textbook	136		
Identify the orientation of the loop with respect to the magnetic field when the current in the A generator is elither maximum or minimum. The properties of the properties of the continuous of the properties of the proper	3	Identify the main energy transformation that occurs in an electric generator.	St. Textbook	136		
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S. Textbook 138 Show that the power produced by an AC generator is always positive St. Textbook 25 company of the power	5	وضع (اتجاه) الملف بقيمة القوة الدافعة ا EMF او قيمة التيار الكهرباني المستحث. Draw a sketch of EMF (or current) versus time for an AC generator, relating the position of	St. Textbook	136		
الله و المحتوان المح	6		St. Textbook	138		
through magnetic field lines (changing magnetic flux through a closed loop of variable area) while being pulled over other conducting wires or hars which form together a closed loop. Page	الإستلة ال	Show that the average power of an AC generator is half of the maximum power produced by the generator.				
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Apply the principle of mutual inductance to explain the working of a transformer. 12	10	يعرف الحث الذاتي، ويوضح التأثير الناتج عن الحث الذاتي في دائرة تحتوي على ملف عند مرور او قطع التيار بشكل مفاجئ. Define self-inductance and describe the effect produced by self-induction in a circuit				
12 Explain how transformers are used in the National Grid System to transmit power through long distances with minimal power losses. 147	11					
الموجات الكهر ومقاطيسية	12	Explain how transformers are used in the National Grid System to transmit power through	St. Textbook	147		
الم Describe the primary characteristics of electromagnetic waves. If M a M الم	13	يعرف الموجات الكهرومغناطيسية.	St. Textbook			
المعادلة المعادلة (المتافقة المعادلة	14		St. Textbook	167		
- بيطبق قاعدة اليد اليمين لتحديد اتجاه التيار المستحث في سلك يمثل جزء من دائرة مغلقة) يتحرك غير مجال مغناطيسي Apply the equation (EMF = BLvsin(θ)) to determine the magnitude of induced emf for a wire moving through a magnetic field - Apply the equation (I = EMF / R) to calculate the magnitude of induced current in a wire that is part of a closed circuit Apply the right-hand rule to determine the direction of the induced current in a wire (that is part of a closed circuit) moved in a magnetic field. - AC2- المسائل المعالفة المتيار وفرق الجهد والفترة لمولد تيار متردد المسائل العدية والمعالفة المعالفة المحول ونسبة فرق الجهد في المحول (= ويطبق المعالفة المعالفة المحول المثالي في حل المسائل العدية والمعالفة المحول المثالفة المحول المثالفة من المحوات المعلفة المحول المثلثة من المحوات المكورة المثلثة من المحوات المكورة المثلوثي على المحالفة المحول المثلثة المحول المثلثة من المحوات الكهرومغناطيسية وسنائة المحول المثلثة من المحوات الكهرومغناطيسية وسنائة المحولة المثلثة من المحوات الكهرومغناطيسية وسنائة المحوات المختلفة من المحوات الكهرومغناطيسية وسنائة المحوات الكهرومغناطيسية وسنائة المحوات المحالفة المحوات الكهرومغناطيسية وسنائة الكهرومغناطيسية وسنائة الكهرومغناطية وسنائة الكهرومغناطية وسنائة الكهرومغناطية وسنائة الكهرومغناطية وسنائة الكهرومغناطية وسنائة الكهرومغناطية وسنا	15		St. Textbook	175		
- Apply the equation (الله الله الله الله الله الله الله ال	16	مقدار التيار الكهرباني المستحث في سلك يمثل جزء من ـدانرة مغلقة.سلك يتحرك عبر مجال مغناطيسي. ـ يطبق قاعدة اليد اليمنى لتحديد اتجاه التيار المستحث في سلك (يمثل جزء من دائرة مغلقة) يتحرك في مجال مغناطيسي. - Apply the equation (EMF= BLvsin(\theta)) to determine the magnitude of induced emf for a	Example 1	134		
Applications 5, 139 Applications 5, 8 Calculate the maximum and effective values of current, voltage, and power for an AC generator Calculate the maximum and effective values of current, voltage, and power for an AC generator Ch. ASS. Q 41 150 Relate the turn's ratio of a transformer to its =voltage ratio and apply the equation in problem solving. - Apply the ideal transformer equation to solve numerical problems - Lead in the problem solving. - Apply the ideal transformer equation to solve numerical problems - Lead in the problem solving. - Lead in the problem solving in the problems - Lead in the problem solving in the problem i		- Apply the equation $\left(I = \frac{EMF}{R}\right)$ to calculate the magnitude of induced current in a wire that is part of a closed circuit. - Apply the right-hand rule to determine the direction of the induced current in a wire (that is	Ch. ASS.Q 45	151		
- Apply the ideal transformer equation to solve numerical problems - يصف التطبيقات العملية للأنواع المختلفة من الموجات الكهرومغناطيسية	الم الم	يحسب القيم القصوى والقيم الفعالة للتيار وفرق الجهد والقدرة لمولد تيار متردد. AC . Calculate the maximum and effective values of current, voltage, and power for an AC	8			
- Apply the ideal transformer equation to solve numerical problems - يصف التطبيقات العملية للأنواع المختلفة من الموجات الكهرومغناطيسية	FRQ - كالم	ـ يربط بين معدل اللفات لمحول ونسبة فرق الجهد في المحول (= ويطبق المعادلة المناسبة في حل المسائل العددية ـ يطبق معادلة المحول المثالي في حل المسائل العددية. - Relate the turn's ratio of a transformer to its =voltage ratio and apply the equation in	Example 2	146		
		- Apply the ideal transformer equation to solve numerical problems				
St. Textbook - يحسب سرعة الموجات الكهرومغناطيسية في أوساط مختلفة لكل منها ثابت عزل مختلف.	10	- يُطبَق معادلة الموجة لحساب الطول الموجى أو التردد أو السرعة للموجات الكهرومغناطيسية - يحسب سرعة الموجات الكهرومغناطيسية في أوساط مختلفة لكل منها ثابت عزل مختلف.	St. Textbook	169		
- Apply the wave equation to calculate the wavelength, frequency, or speed of electromagnetic waves. - Describe some applications of the different types of electromagnetic waves. - Calculate the speed of electromagnetic waves in different mediums of different dielectric constants.	19	waves Describe some applications of the different types of electromagnetic waves Calculate the speed of electromagnetic waves in different mediums of different dielectric		171		
* Questions might appear in a different order in the actual exam, or on the exam paper.	*					
قد تظهر الأسئلة بترتيب مختلف في الامتحان الفعلي، أو على ورقة الامتحان.						
** As it appears in the textbook, LMS, and (Main_IP). ** کما وردت فی کتاب الطالب و LMS و الخطة الفصلية.						